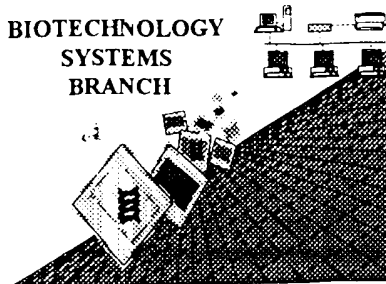


0570  
0906

BIOTECHNOLOGY  
SYSTEMS  
BRANCH



**RAW SEQUENCE LISTING**  
**ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/939,209

Source: OIP/E

Date Processed by STIC: 9/18/2001

**THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.**

**PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:**

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

**FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.**

**FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.**

**PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)**

**PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)**

**TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:**

**Checker Version 3.0**

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

**Checker Version 3.0 can be down loaded from the USPTO website at the following address:**

**<http://www.uspto.gov/web/offices/pac/checker>**

# Raw Sequence Listing Error Summary

ERROR DETECTED	SUGGESTED CORRECTION	SERIAL NUMBER: 09/939,209
ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE		
1 <u>    </u> Wrapped Nucleics Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."	
2 <u>    </u> Invalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.	
3 <u>    </u> Misaligned Amino Numbering	The numbering under each 5 <sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.	
4 <u>    </u> Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.	
5 <u>    </u> Variable Length	Sequence(s) <u>        </u> contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.	
6 <u>    </u> PatentIn 2.0 "bug"	A "bug" in PatentIn version 2.0 has caused file <220>-<223> section to be missing from amino acid sequences(s) <u>        </u> . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.	
7 <u>    </u> Skipped Sequences (OLD RULES)	Sequence(s) <u>        </u> missing. If intentional, please insert the following lines for each skipped sequence: (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped  Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.	
8 <u>    </u> Skipped Sequences (NEW RULES)	Sequence(s) <u>        </u> missing. If intentional, please insert the following lines for each skipped sequence. <210> sequence id number <400> sequence id number 000	
9 <u>    </u> Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.	
10 <u>    </u> Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence	
11 <u>    </u> Use of <220>	Sequence(s) <u>        </u> missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)	
12 <u>    </u> PatentIn 2.0 "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.	
13 <u>    </u> Misuse of n	n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.	

OIPE

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/939,209

DATE: 09/18/2001

TIME: 11:04:04

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

Does Not Comply  
Corrected Diskette Needed*error throughout*

3 <110> APPLICANT: Levitt, Pat R.  
 4 Mirnics, Karoly  
 5 Kodavali, Chowdari  
 6 Nimgaonkar, Vishwajit L.  
 W--> 7 <120> TITLE OF INVENTION: Methods and systems for facilitating the diagnosis and  
 N--> 8 treatment of schizophrenia  
 C--> 10 <130> FILE REFERENCE: 00-539  
 12 <140> CURRENT APPLICATION NUMBER: US/09/939,209  
 13 <141> CURRENT FILING DATE: 2001-08-24  
 15 <150> PRIOR APPLICATION NUMBER: US 60/228,021  
 16 <151> PRIOR FILING DATE: 2000-08-24  
 18 <160> NUMBER OF SEQ ID NOS: 8  
 20 <170> SOFTWARE: PatentIn version 3.1

## ERRORED SEQUENCES

22 <210> SEQ ID NO: 1  
 23 <211> LENGTH: 2934  
 24 <212> TYPE: DNA  
 25 <213> ORGANISM: Homo sapiens  
 27 <400> SEQUENCE: 1  
 E--> 28 gtacgtcaa agccgaagcc acagctcctc ctgccgcatt tctttcctgc ttgcgaattc  
 29 60  
 E--> 31 caagctgtta aataagatgt gcaaagggt tgcaggtctg ccggttctt gcttgaggag  
 32 120  
 E--> 34 tgcaaaagat atgaaacatc ggctaggttt cctgctgcaa aaatctgatt cctgtgaaca  
 35 180  
 E--> 37 caattcttcc cacaacaaga aggacaaagt gggtatttgc cagagagtga gccaaaggga  
 38 240  
 E--> 40 agtcaagaaa tgggctgaat cactggaaaa cctgattagt catgaatgtg ggctggcagc  
 41 300  
 E--> 43 tttaaagct ttcttgaagt ctgaatatag tgaggagaat attgacttct ggatcagctg  
 44 360  
 E--> 46 tgaagagtac aagaaaatca aatcaccatc taaactaagt cccaaggcca aaaagatcta  
 47 420  
 E--> 49 taatgaattc atctcagtc aggcaaccaa agaggtgaac ctggattctt gcaccaggga  
 50 480  
 E--> 52 agagacaagc cggaacatgc tagagcctac aataacctgc ttgatgagg ccagagaagaa  
 53 540  
 E--> 55 gattttcaac ctgatggaga aggattccta ccgccgttc ctcaagtctc gattctatct  
 56 600  
 E--> 58 tgatttggtc aaccctgcc gctgtggggc agaaaagcag aaaggagcca agagttcagc  
 59 660  
 E--> 61 agactgtgct tccctgggtc ctcaagtgtc ctaattctca cctgaaggca gagggatgaa  
 62 720  
 E--> 64 atgccaagac tctatgtctt ggaaaacctg aggccaaata ttgatctgta ttaagctcca

*format error - see  
item 1 on Error  
summary sheet**60**120**↓*

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:04

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

65 780  
E--> 67 gtgctttatc cacattgtag cctaatatc atgctgctg ccatgtgtga gtcacttcta  
68 840  
E--> 70 cgcataaact agatatagct tttggtgttt gagggttcat cagggtggga cccattcca  
71 900  
E--> 73 gtccaatttt cctaagtttc tttgagggtt ccatgggagc aaatatctaa ataatggcct  
74 960  
E--> 76 ggtaggctcg gattttcaaa gattgttggc agtttctcc tcccaacagt tttacctcg  
77 1020  
E--> 79 gatggttggg tagtgcattg cacatgacat ccacatgcac atgtattctg ttggccagca  
80 1080  
E--> 82 cgttctccag actctagatg tttagatgag gttgagctat gatatgtgct tgtgtgtatg  
83 1140  
E--> 85 tctatgtgta tatattatat atacattaga cacacatata cattatttct gtatatagat  
86 1200  
E--> 88 gtctgtgtat acatatgtat gtgtgagtgt atgtatacac acacacacac acacacacac  
89 1260  
E--> 91 acacttttgc aagagtgatg ggaaagaccc taggtgctca taactagagt atgtgtatgt  
92 1320  
E--> 94 acttacatgg gtgttttgat ctctgttctt tcatactaca tttgaacagg gcaaaatgaa  
95 1380  
E--> 97 ctaactgcca tgtaggctaa gaaagaaatg ctaacctgtg gaaagttggg tttgtaaaat  
98 1440  
E--> 100 tccatggatc ttgctggaga agcatccaag gaacttcatg cttgatttga ccactgacag  
101 1500  
E--> 103 cctccacett gagcactatt ctaaggagca aataccttag ctcccttgag ctggttttct  
104 1560  
E--> 106 ctgatggcac ttttgagctc ctaagctgcc agccttccct tcttttctcg ggtgctcagg  
107 1620  
E--> 109 gcatgcttat tagcagctgg gttgggtatgg agttggcaga caggatgttc aacttaatga  
110 1680  
E--> 112 agaaatacag ctaaggcctt gccagcaaca cctgccgtaa gttactggct gaggtagggc  
113 1740  
E--> 115 atagaagtta aaggttactg tttttatcct ctatcctttt ttccttctct gatcaagggtg  
116 1800  
E--> 118 ctcttctcat ttttctctga gaaccttagc catcagatga ggctccttag tttattgtgg  
119 1860  
E--> 121 ttggttgttt tttctttata atggctctgg gctatatgcc tatatttata aaccagcagc  
122 1920  
E--> 124 aggggaaaga ttatatttta taagaggga caaattttca caatttgaaa agcccacata  
125 1980  
E--> 127 agttttctct ttttaaggtag aatcttggtta atttcattcc aaacatcggg gctaacagag  
128 2040  
E--> 130 actggaggca tttcttttta ggctctgaga ctaaatgaga ggaaaagaaa agaaaaaaaa  
131 2100  
E--> 133 aatgattgtc taaccaattg tgagaattac tgtttgaaac ttttcaaggc acattgaaat  
134 2160  
E--> 136 acttgaaaac ttctcattta tgttatttat gatgttattt tgtacgtgtt attattatta  
137 2220

*same  
error*

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:04

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

E--> 139 tattgtttta taaatggagg tacaggatat cacctgaatt attaatgaat gccaggaag  
 140 2280  
 E--> 142 taattttctt ctcatctctt taaaactact gcctttcaaa gtgcacacac acgcgtccac  
 143 2340  
 E--> 145 atacactgca ttcgttgctc cagtataaat tacatgcatg agcaccttct tggcttttaa  
 146 2400  
 E--> 148 gccaatataa tgggctgcaa aatgaagaca ccagagtgtg tgcatacaaa tctcactgta  
 149 2460  
 E--> 151 ttaaagatgc aggttttcta attgtaccct tcttgctctt ctggcaatct tgccttaat  
 152 2520  
 E--> 154 atccctggag ttctcatca gtgtcatttt ctgttataca cagttccaca attttgctct  
 155 2580  
 E--> 157 tagttgactt caaatgtgta actttattgg tcttgcccta ttataattgt catgacttct  
 158 2640  
 E--> 160 agattgtatc tgaactcaca gactgctgtc ttactaatag gtctggaagg tcacgtgaa  
 161 2700  
 E--> 163 tgagaagtaa attattttat gtaatacatt tttgagtgtg ttttccagtt gtatttccct  
 164 2760  
 E--> 166 gttatttcat cactatttcc aatgggtgagc ttgctgtctc atgctccctg gacagaatac  
 167 2820  
 E--> 169 tccttctttt tgcctgctg tttctatcat gtgcttgata ggctcaaag ctaatgcttc  
 170 2880  
 E--> 172 cagtgaacaa cacgcatctt aataataagg gtaataaac gctccatag aaac  
 173 2934  
 223 <210> SEQ ID NO: 3  
 224 <211> LENGTH: 20300  
 225 <212> TYPE: DNA  
 226 <213> ORGANISM: Artificial Sequence  
 228 <220> FEATURE:  
 229 <223> OTHER INFORMATION: A genomic sequence containing RGS4 nucleic acid sequence  
 230 and sequ *more*  
 231 *ences* upstream and downstream to the RGS4 nucleic acid  
 232 sequence  
 234 <400> SEQUENCE: 3  
 E--> 235 agttcaagac cagcctgagc aacatggtga aaccccatct ctactaaaaa tacaaaatta  
 236 60  
 E--> 238 gacaggcatg gtgatacacg cctgtaatcc cagctacttc ggaggccgag gcaggagaat  
 239 120  
 E--> 241 cacttgaacc tgctgggggt ggagggttgcg gggagcaaga tcatgccatt gcactccagc  
 242 180  
 E--> 244 ccaggcaaca agagcgaaat gtcctctcag aaaaaaaaaa aggcatttta tatatatata  
 245 240  
 E--> 247 tatatatata tacacacaca cacacatata tatatacaca tatatatata catatatata  
 248 300  
 E--> 250 tatatacaca tatatacaca tatatatata catacatatg tacacatata tatacacata  
 251 360  
 E--> 253 tgtatacaca tatatacaca tatatacaca catatatata catatatata cacatatata  
 254 420  
 E--> 256 cacatatata cacatatata cacatatata catatatata catatatata tatatacaca

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

257 480  
E--> 259 tatatataat atacacacat atatatacac atatatacac acatatatac acatatatac  
260 540  
E--> 262 acatatatat acacatatat acacatatat acatatatac acatatatat acatatatac  
263 600  
E--> 265 acatatatac atatatacac atatatacat atatacacac atatatacac atacatatatac  
266 660  
E--> 268 acacacatag atatacatat atatacacat atatatacgt atatatatgt atatatatat  
269 720  
E--> 271 gctccagagt tcataagagg tagcagttga ttaccactgg ggatagagga aaagagagtt  
272 780  
E--> 274 tgacagcagt gtattgtgag aaggacattt caggttgatg gcaaatagta ggggaaatac  
275 840  
E--> 277 ataaatgtgt aataaaacct atctgtaagg tagttaagaa ggtaacacta tatatatata  
278 900  
E--> 280 tagtgaaagc agtgtaaacc taaaggatgg gccaggatt taaatgttat agaagaatgg  
281 960  
E--> 283 ctaagatgcc aaagctcagt gtatgtggca gaggcattgt gtaggggtgtg tccaggttca  
284 1020  
E--> 286 tatattgcat taagtgtgag aacaccctgg agtatgaacc aagaaaatgc aaaagccaga  
287 1080  
E--> 289 agtgatggag gaaatgagac acaataatga agatattgag aggaggggtgt gggcctagag  
290 1140  
E--> 292 tgaagctttt cgtgccagta cttcttttga aggccagtt ctcttctctc tcgggggctc  
293 1200  
E--> 295 cttcatctct catagagtc acagctttta agggccaaca cttgaggtca gcctggctct  
296 1260  
E--> 298 ctcatttgag ctggatagaa catttttagag caccatctat tcttcaagag gaagtttaaa  
299 1320  
E--> 301 aataaaagaa ccttgaagag gaaaaaatgt agacattcaa tctaaccctt tcattttact  
302 1380  
E--> 304 agccaaagct aaatagaatg caggttacct gtttttcagc caggcaccat catttcctaa  
305 1440  
E--> 307 ttgttataaa atttattatt attgttggtta ttattattat ttgccataag aagtttccca  
308 1500  
E--> 310 tatcctttta gtataacaaa aacacaattc acaagcatta taaaacccat ggtgtctaac  
311 1560  
E--> 313 tattaaaaaa attaagtga acacacttgt cccagctact ggggaggctg aggagggagg  
314 1620  
E--> 316 atcacgtgat cccagggggt caaggttatg gagagctatg attgtgccac tgcactccag  
317 1680  
E--> 319 cctgggtgac agggaaagac cctgtctcta aaattttttt taaaaaaact aaactggttt  
320 1740  
E--> 322 tattacagag attctggaga cagctacaca taaaagggtg gtatgcctca tattagctac  
323 1800  
E--> 325 ccagggagggt ggaatgccaa cttaggtggt gtcaccacta ttaaaaatgc cccaaagcaa  
326 1860  
E--> 328 tcaaaaactga gaacttctg ggagcttagc attgtgcaaa agcagcacia aacacttaaa  
329 1920

*Done*

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

E--> 331 caattcacag ttgtgttga atgggaaggc ctggaaatat aaaccaaaga gtatattgtc  
332 1980  
E--> 334 taaattgata gagattacaa ttgcctgaaa gaaaaagttg acttttaact agaattgtca  
335 2040  
E--> 337 gagtaggttt acagaagaag ctcttaaact gggctccagt ggatttgtca atgctttgga  
338 2100  
E--> 340 agctgggtggg gtgggagggg tggagggggc ataaaaagtc atgttggtat gctctgtca  
341 2160  
E--> 343 agtctccatt ctgtttcett ttctctttt caatgtcatg tcccattatt tcattatggg  
344 2220  
E--> 346 ctcccttta tccaggatca atatgccacc tcttggttgt cttttaccta cttctccacc  
347 2280  
E--> 349 tcactatgga atcgctcttg ggtagctcct gtgcttgga acctgcacgg gcactttct  
350 2340  
E--> 352 gatgtcttga ttccagcttt actcctaaaa cttaaagtct gaggggccaa caccatggca  
353 2400  
E--> 355 gtggtagga tgggaatggg ggtcttgtaa cacactacat aaactacacg aaataaacta  
356 2460  
E--> 358 catgaaactc aacatgtttg caagactcag ttcacatcca tgaggagctc atgcttctcc  
359 2520  
E--> 361 ctctgtctcc cctagcacac atgattatct ctatttgga atgtttggca tttttggtga  
362 2580  
E--> 364 agtgaatggt tcaataactt tctccaccat cagaacaaaa gctctttaag gttagggatg  
365 2640  
E--> 367 ggcataca cacttccctt gtccaagtcc ccatcaccce ttatctagac aattgctaca  
368 2700  
E--> 370 gtttcttaca cacttctcta acctcttgca gtctattttc ataaaacagc tagagaactt  
371 2760  
E--> 373 tgagatgtaa gtcaaaaaat agaacatgct gctctttccc attgtttttg aaataaagtt  
374 2820  
E--> 376 caacccctt accaggggtca acaaggccct gcaatgattt ggtcctgtta aaaattcttt  
377 2880  
E--> 379 agccttaact catgctgttc ttcttacac tcaactgatt ctagccattg aggtttctat  
380 2940  
E--> 382 gcatcaaact ttttttggtc ccagcactgt gcacatcctt ctgggtagaa tgccccctga  
383 3000  
E--> 385 tttgtataat tagcacctcc ttcacatctt aggtcttagt ataactacta cttctttaga  
386 3060  
E--> 388 gaagctctgc ttcttcatcc tataaaaaag taaaattcct taccctgtta ttttttaagt  
389 3120  
E--> 391 catccgtgtt tcattctgtt aaagttctta tcacaattta tcattatttt atttacagtc  
392 3180  
E--> 394 atgtgccaca taacaatggt tcagtcaggg atagaacaca aatgtatctg gcccataat  
395 3240  
E--> 397 attataagct gagaaatttc tattaactag tgatategca gccatcataa gtgtaatgca  
398 3300  
E--> 400 ggacattacc ttttctatgt ttagatatgt tagatacaca aatatatttc attgtgttat  
401 3360  
E--> 403 aatttctac agtattcagt acagtaacat gctgtacagg tttgtaacct aggagtaata

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

404 3420  
E--> 406 ggctatacca tacagcttag gtgtgtagta ggctataacc atctagggtt gtgtaagtac  
407 3480  
E--> 409 attctatgat attcccacaa tgatgaaatc acctaacac acattttctca gaatgtttca  
410 3540  
E--> 412 ctgtttgtgaa gtgacccatg actatatattt cctatatact tgatattttt gtgcatctgc  
413 3600  
E--> 415 ccatgagaat gtagtgtaag atcaaaggat gcaagaatgg gttctatcca gtatagtacc  
416 3660  
E--> 418 cactacactg gtggatgtca atatgtattt gttagattaa tatctcaaga atgagcacct  
419 3720  
E--> 421 ttctcagaca cataaaagat gctcaatata aaagtttggt gaactgaacg ttattggcaa  
422 3780  
E--> 424 atgtaacatg atcggtatta aagaggagcg aaacagaggt ctgggtcaaa caccatactt  
425 3840  
E--> 427 ctagagtga taagaggtag cagttgatta ccactggcga caggagaaaa aagagcttga  
428 3900  
E--> 430 ccgcagggtg ctgtgaagac atttcagggt gatggcacag aacaggggaa atacataaat  
431 3960  
E--> 433 gtgtgggaat attcagtgtt ctgggatgac tacatagtag aatataatga agaaaagagt  
434 4020  
E--> 436 ggaagggaaa gatgaaaagt tggaatgggg atgaattatg aaagtaccag aatgttatgc  
437 4080  
E--> 439 taaggaatct agattttaaa atgtgagggc aaattgaagt cctgggcacg ttacaaaact  
440 4140  
E--> 442 agaggtcata aagtttacc taatttacca agatttecta gaggatctat aattggaatc  
443 4200  
E--> 445 cagatctgcc tctctgtaaa gttcaagcac ttccatgac accatactgt ttctttccac  
446 4260  
E--> 448 ctgcacaatg caaatgaact cttatgaaac tgctgtttct atcctgggct aatgttgca  
449 4320  
E--> 451 gaaaaaagat ttaatctttg ggataaggct attttgggtt ttctcctact tcttgggaaa  
452 4380  
E--> 454 caaggttttc ttccctggc taattaagtg tggattgtt cttccaggga aatcagtgat  
455 4440  
E--> 457 gcatcacctg ctgctatcaa atgtcagggt tggagtctct gatttattgc atgtgcccac  
458 4500  
E--> 460 aaagcttggg gcaaagaatt ggacacattt cccaaaagta agacatactg ggaagtccct  
461 4560  
E--> 463 gtttaccttc ctggtatata gcatectcca gcccatactc ttgtttttt agtcctaaaa  
464 4620  
E--> 466 atcaataact gaactctcat tgatgtctag gccattgtag taaacaataa agaaggaggg  
467 4680  
E--> 469 aggtctctga caactgagag gaaattgtca tctgaagtgg tgcaagcaca gcctggggct  
470 4740  
E--> 472 gacgttggc ctacatcctg cccaagtggg ggatcagtgc cccatttaac atctggtaga  
473 4800  
E--> 475 actaaagaac gcaacgcctg ccacaatgac ttatttcctt gcatttgata ccgtcaatcc  
476 4860

*Done*



## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

E--> 478 ttgagaaatg ttttcttttg ttctccctga gcaaagggtg gaaaaatttg aaatttacct  
479 4920  
E--> 481 agagaccaca catagttcac atcctgctgt gtggtgaat gtctgcccc cagtaggaaa  
482 4980  
E--> 484 cagttcttct aaagcctatt gtcaacaata ccttcagat gttagcattt tacaatttaa  
485 5040  
E--> 487 ggaacttaaa atagccttca aactttttgc cagtttctct gatatccaat ctattctttt  
488 5100  
E--> 490 actctgctc ccaagctttc tttctagaat gctaacctga tcggttaag tacttgaact  
491 5160  
E--> 493 acctcttctc ctccattaac tacagagtaa attctggtct tcagagtaac aagaaacacc  
494 5220  
E--> 496 ctttagttct cagcatattc gtgcacctc atttatctct cttctctctc caaagctgca  
497 5280  
E--> 499 gtaggggtga aaacgtgtga tacattttct ctccatcat aagggtcgca accaaaactc  
500 5340  
E--> 502 ctatagtaaa agacaggtta ataagagcaa aacctaacia atttatttaa tcaaagtttt  
503 5400  
E--> 505 acatgacatg ggagtcttca gaaatgaaga cccaaagacc caggggaaac tgtctgtttt  
506 5460  
E--> 508 ttttgcctgag gttcgatgaa gaatggatag catgtagcca tgtagattag acaaaaggat  
509 5520  
E--> 511 atgatctagt ggtaaaggac tcagggggaa acacagcaag gcctgtctat tcagattctt  
512 5580  
E--> 514 cttgatctct ctctctctat gtatagcatt ctttctctct gagtatgggg caggactctt  
515 5640  
E--> 517 cttcaatgag ggtcttcaag ggagaaggga gaaagtggcc tttttagatt ttatggcttg  
518 5700  
E--> 520 cttcggggaa gaggagtctc agtttctatg acctatcttg gggaagagga attctgggtt  
521 5760  
E--> 523 ctgtgacttg ctttcatgaa gaaagaggag taagaggcag gagggcagga gatggtcaga  
524 5820  
E--> 526 aagagacttg gctgcttctg agggcttccg ctctccttta gttccaagta cttcttagca  
527 5880  
E--> 529 taccaaagca ctatactttg gcatatgggt ttctgagctc taacactgca atcatgctaa  
530 5940  
E--> 532 actcctctat gaccttcaaa cattccactt gcttttatct tttatgggtg tgatggcata  
533 6000  
E--> 535 gaggtcaata gcaaagaccc tggagtccca ctgtctgagc tggcataaca ttactaccac  
536 6060  
E--> 538 ttaatcaatg tgtaagctca ggtaagtact taagtctct atgcttcac tgtaaaatga  
539 6120  
E--> 541 gaatcattga agaacattct ctcaggatgg atcatgagga ataagtgaat taactggcat  
542 6180  
E--> 544 atagtctta aaccagtgcc ttgctcagtt agtgacagat aaaatcatct gttattactg  
545 6240  
E--> 547 tgccactat tgtgatgctc ttctcttctt tgtacaacga ctacatctct atttatcatt  
548 6300  
E--> 550 ttagggctct cttgtgaaaa accactccag attcaaaaga ttgagtttaa tctctatcct

*Done*

## RAW SEQUENCE LISTING

DATE: 09/18/2001

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TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

```

551 6360
E--> 553 ctgtgctttc ctggagtttt gtaaagtaaa tcttcacttg acatcatgga taggttcttg
554 6420
E--> 556 gaaactacaa cttcaagtga aaggacataa ctaaaccaat ttttttctca tcaacgttat
557 6480
E--> 559 aatgaaatgg cattgatgaa atgatggcat tcaaggacct gctgtacctt gtttcactta
560 6540
E--> 562 aagtcactgt ttccaataat ctattgatga cattgaggac ttactatata ataataaata
563 6600
E--> 565 tatatataat cgacgaaaca ggaatcaaac tgctaactct gctaactggc ctccttgctt
566 6660
E--> 568 ccacactctg cccactcatc tcagtctttc tttcacaaga gtcagaatga tcagatgaga
569 6720
E--> 571 cccctcctct gcttctgttt cttccatgga tttccactgc actctgataa agtccagcct
572 6780
E--> 574 cttgaccaca gcctacaaat ccttgcaaga tctatcgttt acttttccat ctccttttat
575 6840
E--> 577 gctactttca tcttgttctc aattctctag ctatgctggc ccttcttctt tctttcccat
578 6900
E--> 580 ttttttttaa tttttaaaat ttgtatatat ttatggggtta taagtgaat ctttttagat
581 6960
E--> 583 gcataggttg tatagtgata aaatcagggc ttttagggta ttcacacct gaatgatgta
584 7020
E--> 586 cattgtaccc cttaagtaat ttctcaccat ccgctgactt cttgccccct gggtattcat
587 7080
E--> 589 cacctgaatg atgtgcattg taccocctaa gtaatttctc accatccgct gacttcttgc
590 7140
E--> 592 cccctgggta ttcacacct gaatgatgtg cattgtaccc cttaagtaat ttctcaccat
593 7200
E--> 595 ccgctgactt cttgccccct catccttctg aggetccatt gtccatcatt ccacactcta
596 7260
E--> 598 catctatgtg tacacattat ttagctccta cttataagtg ataacatgca atatttgtct
599 7320
E--> 601 ttctgtgtct gtcttgtttt acttatgata atggccccca gttctatcta ggctgtgca
602 7380
E--> 604 aaaggcatga ttccattctt ttttatggct atgttctttc ccaatttaga taaagaacac
605 7440
E--> 607 tcgcacttgc tcttaactct atttggaata ctaattccta ggcttcttgc attgctttct
608 7500
E--> 610 ccttctcacc catcaaatct catttttagat accacctctt caaagagggc tttcctgacc
611 7560
E--> 613 accttggttg aattagccct tcaccatctg attactctct agcacatcac ctgcccattt
614 7620
E--> 616 tattcatggc acaggtcaaa atctggaatc acctgatttg tttattttct gactccttct
617 7680
E--> 619 actgagatga aaactctact agagcggaga ttttatctgc ttgtatcagg tactgcttca
620 7740
E--> 622 aacagcacct gatacagagt aggtgggtcaa aagatatttc ttaaacaaat gaacaaataa
623 7800

```

*Done*

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

E--> 625 aaagtagatc ttttgagagt aaagctcttc cacactacca gagtcattca ggaatgacaa  
626 7860

E--> 628 atcatagaat aacagaattt gatgctttgt gcataacaga gaaagaaggt ggaagggtgt  
629 7920

E--> 631 caaggtatca tgatgtacca gtctctgect cctcaaacac aatctgcaag tcccacagtg  
632 7980

E--> 634 aaaaagtaag ttaactcatg tgaagcggtt tacaaacact tttttaaag tcttaaaact  
635 8040

E--> 637 cctaagaaag caagatttaa tagtcaaaga agtgagtaaa catgaaatgc ctgaacagag  
638 8100

E--> 640 taatgagcta agcacaaagt tagagacatg ttagttaata tgtcttgaaa gcagcagctc  
641 8160

E--> 643 ctgctttcaa ggagcaagaa caaattgggc aagtgaacac tccttgaata aaatgtgtaa  
644 8220

E--> 646 aattaatttt gggttatggt ctatactgtg tataatagaa tgataaaaat tatttgacta  
647 8280

E--> 649 gcactttgta gtttagaaat atctctatct acacagttta ccttatttga taagactgtt  
650 8340

E--> 652 gagtgatggg atagcatggt ggacaatcca cataactgag tatcgagaca cctgtatctg  
653 8400

E--> 655 gaccagctc tgtagtaag aagctgtaac ctgagcaagt cactttctct ttctgggtct  
656 8460

E--> 658 ctatttcctt tttggtgaaa tgagagtgtt aggctagatt gcctttgaag tccatttttg  
659 8520

E--> 661 tctttaaagt cccatctatt gcagtgattt atatttaact catgacaaat caggcttctc  
662 8580

E--> 664 ttattctaag tgcaagacat aaaactttta ttgtggaatt tcaggcatca gtaaattctt  
665 8640

E--> 667 ttgggtactc acttatgttc ctgaaatcaa tctatttgag tgatcactct tttaggtgcc  
668 8700

E--> 670 caggtaaaca aagaaggcca tggcttttct ttgagtgacc ttctttccct ttttaattagt  
671 8760

E--> 673 ctgacctctt taatgtcagt tctgactgat tcatttcctt ggtccatctt ccttgggtctg  
674 8820

E--> 676 agggccttcc tagtttcata ttgcacttca gttccttcca caccaccatc aaggatggct  
677 8880

E--> 679 gtcaacattc atttgttcta tgttataatt caaggaaaag ttgcccagta gctaatacaa  
680 8940

E--> 682 taaatgccct cttatgggag gctagagact ttttctata atttaaatgc atcttctgta  
683 9000

E--> 685 gattatggtc cctccaccac ttacatttg tctgtgtct ccttgtctctg ctagtcatgg  
686 9060

E--> 688 aacgtgttgg tagtgggggc agtgtgggat gttcaagggc acgtattggg tagggccaca  
689 9120

E--> 691 tatgggcatt gctttgtgcc attctttcta tatttttggg attttgcac tcactggaac  
692 9180

E--> 694 ccaactatct ttcactctct ccacctaaac tatttgatgc ctctgtttct tatatataaa  
695 9240

E--> 697 gtatagctca ctgtagccta tgatcaggaa cctatctgct ttctaaatga aagctgtttt

## RAW SEQUENCE LISTING

DATE: 09/18/2001

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TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

698 9300  
E--> 700 ggtcagatct agcaattaat tcccttcttc cacttatagc tttcctctgt aactctggtg  
701 9360  
E--> 703 taggtatttg gtttatggct ataagatgtg aaacacctga atgattctgt ccatgcaggc  
704 9420  
E--> 706 atttcagttc atgatattgt atgtaaaaga tactgattgt ctaggtgttc agaaacacct  
707 9480  
E--> 709 atagggetta atattcttac aatcagtttg aaggctggtg atacgcaaag caaactacat  
710 9540  
E--> 712 atttttctgc ctgctctctc tctttctctc tacatctctc tttctttatc ttttgaaata  
713 9600  
E--> 715 tcagtttggg gacttagaat tacataagac ataaacccat ttgatataag aattgctgtg  
716 9660  
E--> 718 tatatttgct catctactcc ctcccttggt cctcgagctg ccggtttaga ctttttacag  
719 9720  
E--> 721 gacgcaggca tgtgaaggag aaactgtcag tgctaggctg aattctgttg ttaccaagat  
722 9780  
E--> 724 ttctagaaaa gtattcctca gtcaggttga ttacagatat agcaaata tttttcctag  
725 9840  
E--> 727 ggtagtttct gtatgctgcc gggcttataa ctgtctgtca tccagctatt tctctccacc  
728 9900  
E--> 730 ttcttggttg cataacaacc aaggcaactt ccgcaaatca ctgctgggag acgatgatcc  
731 9960  
E--> 733 tgccagctcc cttttggaaa tcgtgaggat cagatcttgg accatgtata atatgatget  
734 10020  
E--> 736 tctaatacaa aagaggaaaag gcattgggag tcagctccta agtaagctcc agaattcctg  
737 10080  
E--> 739 ctggtacttt tcttccagg aagcaacttc cttgatattt tttttttaca ggcatatgaa  
740 10140  
E--> 742 taaaaactat attttgcagc attgtacact ttttttctt ttctagaaat tctaaacctc  
743 10200  
E--> 745 tgacattggt ggagacattg agtacatttt tccccatct cctacttttc agaaggattt  
746 10260  
E--> 748 tctctgctg ttcacttaac attgctgatg cgtcagcttt ttcttctca tctctttcag  
749 10320  
E--> 751 gggctggaga ggcagaggga gacagaggag ctggtactgc agagcggctg tctgattggc  
752 10380  
E--> 754 tggacggtcg tagctgggct ataaaagaga cccctacagg cttagcagga agacgctcag  
755 10440  
E--> 757 aggattctga caatatcttt accggagaag aggc aaagta cgctcaaagc cgaagccaca  
758 10500  
E--> 760 gctcctcctg ccgcatttct ttcctgcttg cgaattccaa gctgttaa at aagatgtgca  
761 10560  
E--> 763 aagggtctgc aggtctgccg gcttcttget tgaggaggta agattgcttt cagccattaa  
764 10620  
E--> 766 ccatattaaa cttttggcta gactttctca gttatttaca tgttgtaact actaacctag  
767 10680  
E--> 769 ttctgtgcaa ttagaaacag tgtggtcagg agagcacgac tttctaactt tctccaaga  
770 10740

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

E--> 772 ctagctagat attgtgactt aagacatgtg ctccccaat ttcagccctt atgtgttgtt  
773 10800  
E--> 775 ttgtgtgacc tcagttttga gaactgttct attctttaag ccaggctctaa gaaagctagt  
776 10860  
E--> 778 tttaattaag aagcgagatg aggtttgagg ctatgtacag tgatctgtaa tatctccatc  
779 10920  
E--> 781 tgtgattact actgctatct gagcatccct ggagtacata gaagcctggc tctgggcttt  
782 10980  
E--> 784 ctgattgtat gctacaactt gtttcaggaa aggtacccca gaatgagggt tggctccatc  
785 11040  
E--> 787 atcagaaagg cactatgctt tccgtgtggt ggtgcagtaa ctttcaactct ctatgttctt  
788 11100  
E--> 790 ataagcaaat gttacaatga gatatgagtt ttaaagccag atcttccctta tctctctgcc  
791 11160  
E--> 793 ccatctctag ttcttgaagt gtctcatatg agtttggttg agaaatattg atcattacaa  
794 11220  
E--> 796 atcagttaat agttttgtag aagatctcat cttaaagaca ttgttttgtt aatatactcc  
797 11280  
E--> 799 cttgattttt ttaaaagacc ttacagacat acagctatct atttgttttt ggtttgttca  
800 11340  
E--> 802 aaaaagggtat aaagaaatgc attcagagaa agatcatata ttagccagtt gaaaattaaa  
803 11400  
E--> 805 cacaaaatga gtgcatatta cttacttaa tcttgcagtc aaaggtaaaa agtcaacctta  
806 11460  
E--> 808 aagggtatact acctgctttc ttatgcgact gcaaataagaa attaccacaa attttatctt  
809 11520  
E--> 811 ggaaataatc tcagaaaaca taatttttta tgtactatta aaacatttac tttccaaata  
812 11580  
E--> 814 ttctgtcatt caggagtatg gaagtatcga tggcttcttt aaaatgaagc aggagggctct  
815 11640  
E--> 817 ggcagagagt atctatgaaa taagtctctc tgaccttcac gcttaatttt ctgaatggag  
818 11700  
E--> 820 tggagcaaat tacttcaagc ttcacttaac ttgcatatga aatgaaccgt acaaaaatac  
821 11760  
E--> 823 aagagtgtca ggagaaagt atgctctggt aaatatcttg caaacagat aaaagataat  
824 11820  
E--> 826 actagagctc tgcctcaaaa gagttaagca gctaacttaa ggaggtaaac tctatgtcag  
827 11880  
E--> 829 caggatgaac tgctcttccc tttcctctc aataaattgc aatcatcta gtccaacatc  
830 11940  
E--> 832 tttaccacca gtgcctgagg ctccagagga gccattgcct tctcaaggct acatagggtg  
833 12000  
E--> 835 tgggtgagtt aggaccaa atcagaattcc tgactccagt aacttctgaa gtcattttgt  
836 12060  
E--> 838 tttttatctt tatgggttta ttataagaat acttgctaag cacacttacc cctgcattg  
839 12120  
E--> 841 attaataact ctaggatctc aggtggatcc agcacataga aatatgaatt cgtttctatt  
842 12180  
E--> 844 tggacttcat gatatactta cattatcacc ttggaatcac cctaacattc aggattgtat

*Done*

## RAW SEQUENCE LISTING

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TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

```

      845 12240
E--> 847 cttgttataa tcaaaaagga tgttgcaccc cctgaacagt catcagtcag ggaagcagag
      848 12300
E--> 850 gagggaaagt aatcttgcca ggaagagaaa atactattta agggacagtc agagaacata
      851 12360
E--> 853 atggaattca aactttctgg gaaaacctac atacataaat gtattagtgg ccatcctaaa
      854 12420
E--> 856 tgtctttata tctttgaggc tttattttcc ctactccaaa tagacacatt tagttattca
      857 12480
E--> 859 tttcttttaa aatgggtattt ctctttttta actatttctt gactttttta ataaaaagag
      860 12540
E--> 862 atgcaagcaa gaggatattt aataaaaagt aagagagttg agcttaaggc ttattaaaag
      863 12600
E--> 865 accccctttt tctagttagt caggagctct aatgtgccct ggctacctat taaatggtgg
      866 12660
E--> 868 caataaactg gaagctcagt gatgactota gcctgcttct cctaatagct gttaagcctc
      869 12720
E--> 871 aaatgccctt tagagtgtgt atgtccttta aagtagctat taagaaggaa agcagcagca
      872 12780
E--> 874 gcagatattg tctagaaaga agccccaaga agctgagggt tcagcttggg catttgtttt
      875 12840
E--> 877 cgccatccca tgetccattt cctctgctg gaactgtgca cctcagtgtt ttctccctct
      878 12900
E--> 880 atacctcaca gcaggaactg cttgcccccc cccccccccc ccaacataca tggttggaac
      881 12960
E--> 883 tgaatagact tttactttcc cgaggtgctt ctacagttcc ctctgccagc aggggaacag
      884 13020
E--> 886 atggaaatag caatcacctg ccagaagggt gcgtgcagca aggatgtgca tcttttgccg
      887 13080
E--> 889 ctactgcttt ctgattccta aaaattactc agagatcact catgtgttca gtgattcagg
      890 13140
E--> 892 ttctgttgaa gataccaaag atattcggtt ggtcaaaatg acgggcatat aaaggettct
      893 13200
E--> 895 caggtttctg aggtaaactg aagggtcaga attccagttg tggatgaagg aaatggtgtt
      896 13260
E--> 898 atgactgctt caaggttttg tagcaagtca tagggaacca agaggaatct tgttttcttc
      899 13320
E--> 901 agaggtcagt ccaactccaa ctcccgttcc ctaaactgtc tctgagccat agactagtaa
      902 13380
E--> 904 tggactcttc aagctctacc attaggtatc ttttaaagaa agctggttat tactatttat
      905 13440
E--> 907 tcattttttt ctcttctgtg cagtgcacaa gatatgaaac atcggctagg tttcctgctg
      908 13500
E--> 910 caaaaatctg attcctgtga acacaattct tcccacaaca agaaggacaa agtggttatt
      911 13560
E--> 913 tgccagaggt aagagaaaag gccttggtga agatgtactt agtattaact atctgatgat
      914 13620
E--> 916 ggggatgttc tgtgagaagg aacttgtgct cctagttaag ccagatttgg atcaagatag
      917 13680

```

*Done*

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

E--> 919 cctccatttt catggagatc ataactacat ttgaaatttc tatacattta gtgaaaaact  
920 13740  
E--> 922 gccctcatca ataacatatt ttgtcataac gatggaaaat aaaatctttg ccttcattca  
923 13800  
E--> 925 ggatcttaga tttcttgccc caattttttt accatggcat tccaattatt ctgtttctct  
926 13860  
E--> 928 ctattttttc tagagtgagc caagaggaag tcaagaaatg ggctgaatca ctggaaaacc  
929 13920  
E--> 931 tgattagtca tgaatgtaag tctgacagca acctgggatg aggtactctg gataagacaa  
932 13980  
E--> 934 gttatattat gctggtctaa tagaaactgc agcaaggcct ggcttctttc tgatgttcag  
935 14040  
E--> 937 actcaggaga ctcttttaggt cttaaattca gtctgtttta aattttaata tgccttagag  
938 14100  
E--> 940 ctttgtgata tacaatgaaa agtttatgca ggaacatgt ggaaaacat ctctctcatc  
941 14160  
E--> 943 acaaggaaaa acggaagaga gaaaaaaaat gataaatatc aataccttct tgcaaaatca  
944 14220  
E--> 946 atctcagttt ctctttccca aattgacctt ggtaattgat agctgcatag gcatttcaga  
947 14280  
E--> 949 agcaaaaatac ttccctgaaa gaggcttcca acttgagtaa gaatcattag gtagaactgg  
950 14340  
E--> 952 gaaccactgg atatcaaaca cagattaggg ttacctgact ccaggtgact tgaaaaaagc  
953 14400  
E--> 955 aggggaaaaa gggattgctt gaatccatgc tttatccccc aagtacctca gctttatgtg  
956 14460  
E--> 958 aaatagcata tccaagaggc caaccagtgt gatgacaact gtggtccttt ctctgtatc  
959 14520  
E--> 961 ataggtgggc tggcagcttt caaagctttc ttgaagtctg aatatagtga ggagaatatt  
962 14580  
E--> 964 gacttctgga tcagctgtga agagtacaag aaaatcaaata caccatctaa actaagtccc  
965 14640  
E--> 967 aaggccaaaa agatctataa tgaattcatc tcagtcagc caaccaaaga ggtaggtttt  
968 14700  
E--> 970 ttatggatac ataaaaattg tacgtattta tggagtatgt gtgatatttt gatacatgca  
971 14760  
E--> 973 tacaatgtga taacaatcaa atcagggcaa ttgctatata catatctcaa acatttatta  
974 14820  
E--> 976 tttctacgtg ttgagaacat tccaaatctc ctcttctagc tatcttaaaa tatacaataa  
977 14880  
E--> 979 actattgata actatatcac cctaattgtc tatcaaacac tagaacctat tccctctacc  
980 14940  
E--> 982 caactttcta tctattcctt ctaccatta gccaacctga ccaaaaagggt aagcttttat  
983 15000  
E--> 985 ggcagagaaac tctctggatc ttagtgaagg ttctagaat agtggagctg actatcataa  
986 15060  
E--> 988 tcttgacaac cccaaataaa tcagtttttt aaaaaatctc ttttatccat gtggcttacc  
989 15120  
E--> 991 ataacctccc tgcattgaatt tttctgatga atctcccaa tttgttagac agaacagaag

*same*

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/939,209

DATE: 09/18/2001

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

992 15180  
 E--> 994 atcttgccct gctctctcta aagcagaaag gttcattctg aacctttcat actctctcac  
 995 15240  
 E--> 997 atgtgccaaag gaggacccca atgtcacttt tgttttttgc ttctgaaata cagaggggtgc  
 998 15300  
 E--> 1000 actgccactt acaagtcact acaaagcata caggcttgca tctcaacag ggatataggt  
 1001 15360  
 E--> 1003 ctaatgaagc cttggcccttt gccctcagg tgaacctgga ttcttgacc agggaagaga  
 1004 15420  
 E--> 1006 caagccggaa catgctagag cctacaataa cctgctttga tgaggccag aagaagattt  
 1007 15480  
 E--> 1009 tcaacctgat ggagaaggat tctaccgcc gcttctcaa gtctcgattc tatcttgatt  
 1010 15540  
 E--> 1012 tggtaaccc gtccagctgt ggggcagaaa agcagaaagg agccaagagt tcagcagact  
 1013 15600  
 E--> 1015 gtgttccct ggtccctcag tgtgcctaata tctcacctga aggagaggg atgaaatgcc  
 1016 15660  
 E--> 1018 aagactctat gctctggaaa acctgaggcc aaatattgat ctgtattaag ctccagtgt  
 1019 15720  
 E--> 1021 ttatccacat tgtagcctaa tattcatgct gctgccaatg tgtgagtcac ttctacgcat  
 1022 15780  
 E--> 1024 aaactagata tagcttttgg tgtttgagtg ttcacaggg tgggacccca ttccagtcca  
 1025 15840  
 E--> 1027 attttcctaa gtttctttga gggttccatg ggagcaaata tctaaataat ggctggtag  
 1028 15900  
 E--> 1030 gtctggattt tcaaagattg ttggcagttt cctctccca acagttttac ctgggtagg  
 1031 15960  
 E--> 1033 ttgggttagtg catgtcacat gacatccaca tgcacatgta ttctgttggc cagcacgttc  
 1034 16020  
 E--> 1036 tccagactct agatgttttag atgaggttga gctatgatat gtgcttgtgt gtatgtctat  
 1037 16080  
 E--> 1039 gtgtatatat tatatataca ttagacacac atatacatta tttctgtata tagatgtctg  
 1040 16140  
 E--> 1042 tgtatacata tgtatgtgtg agtgtatgta tacacacaca cacacacaca cacacacact  
 1043 16200  
 E--> 1045 ttgcaagag tgatgggaaa gaccctaggt gtcataact agagtatgtg tatgtactta  
 1046 16260  
 E--> 1048 catgggtgtt ttgatctctg ttctttcata ctacatttga acagggcaaa atgaactaac  
 1049 16320  
 E--> 1051 tgccatgtag gctaagaaag aaatgctaac ctgtggaaag ttggttttgt aaaattccat  
 1052 16380  
 E--> 1054 ggatcttget ggagaagcat ccaaggaact tcatgettga ttgaccact gacagcctcc  
 1055 16440  
 E--> 1057 accttgagca ctattctaag gagcaaatac cttagctccc ttgagctggt tttctctgat  
 1058 16500  
 E--> 1060 ggcacttttg agctcctaag ctgccagcct tcccttcttt tctgggtgc tcagggcatg  
 1061 16560  
 E--> 1063 cttattagca gctgggttgg tatggagttg gcagacagga tgttcaactt aatgaagaaa  
 1064 16620



## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

E--> 1066 tacagctaag gccttgccag caacacctgc cgtaagttaac tggctgagtg agggcataga  
1067 16680  
E--> 1069 agttaaaggt tactgttttt atcctctatc cttttttcct ttcctgatca aggtgctctt  
1070 16740  
E--> 1072 ctcatttttt cctgagaacc ttagccatca gatgaggctc cttagtttat tgtggttggt  
1073 16800  
E--> 1075 tgttttttct ttataatggc tctgggctat atgcctatat ttataaacca gcagcagggg  
1076 16860  
E--> 1078 aaagattata ttttataaga gggaacaaat tttcacaatt tgaaaagccc acataagttt  
1079 16920  
E--> 1081 tctctttttaa ggtagaatct tgttaatttc attccaaaca tcggggctaa cagagactgg  
1082 16980  
E--> 1084 aggcatttct ttttaggctc tgagactaaa tgagaggaaa agaaaagaaa aaaaaaatga  
1085 17040  
E--> 1087 ttgtctaacc aattgtgaga attactgttt gaaacttttc aaggcacatt gaaatacttg  
1088 17100  
E--> 1090 aaaacttctc atttatgtta tttatgatgt tattttgtac gtgttattat tattatattg  
1091 17160  
E--> 1093 ttttataaat ggaggtacag gatatcacct gaattattaa tgaatgcccc ggaagtaatt  
1094 17220  
E--> 1096 ttcttctcat tcttctaaaa ctactgcctt tcaaagtga cacacacgcg tccacatata  
1097 17280  
E--> 1099 ctgcattcgt tgcctccagta taaattacat gcatgagcac ctttctggct ttttagccaa  
1100 17340  
E--> 1102 tataatgggc tgcaaaatga agacaccaga gtgtatgcat acaaattctca ctgtattaaa  
1103 17400  
E--> 1105 gatgcagggt ttctaattgt acccttcttg tctctctggc aatcttgccc ttaatatccc  
1106 17460  
E--> 1108 tggagtctct catcagtgtc attttctgtt atacacagtt ccacaatttt gtctctagtt  
1109 17520  
E--> 1111 gacttcaaat gtgtaacttt attggtcttg ccctattata attgtcatga ctttcagatt  
1112 17580  
E--> 1114 gtatctgaac tcacagactg ctgtcttact aataggctcg gaaggtcacg ctgaatgaga  
1115 17640  
E--> 1117 agtaaaattat tttatgtaat acatttttga gtgtgttttt cagttgtatt tcctgttat  
1118 17700  
E--> 1120 ttcataccta tttccaatgg tgagcttgcc tgcctatgct ccctggacag aatactcctt  
1121 17760  
E--> 1123 ccttttgcac gcctgtttct atcatgtgct tgataggcct caaagctaatt gcttccagtg  
1124 17820  
E--> 1126 aaacacacgc atcttaataa taagggtaaa taaacgctcc atatgaaact atttgcttgg  
1127 17880  
E--> 1129 aaacacatta atgatccaga gacatgctat gagaaacatc aggggtgtagg gtgactttag  
1130 17940  
E--> 1132 aaaaatactc atactgagtc tttaatccct cctgtgccag tgaactctgg gaaagaaagt  
1133 18000  
E--> 1135 aaaaactgaa tattgtttat tcttttagtgc atgccactgc tctgcttggc tctactcata  
1136 18060  
E--> 1138 gaaccaaggc aatcttagct tcagagactg caaaacagat taagtgattt gcttgcagat

*Done*

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

```

1139 18120
E--> 1141 tctcaatcaa ttttcaaggg atagagttca ccttccagag ccattctttt atttccagtt
1142 18180
E--> 1144 accgcctgt ttgagagatg atagagcagt gggaaattga gagagttgaa aggagctata
1145 18240
E--> 1147 gattcttacc caaacttcaa aaatccttcc ctcccttttg ttaattctct ttcttgaaaa
1148 18300
E--> 1150 agaggtcata aaatgttcac atcctcagta ataggccctg tgctgtgtct attatgtcat
1151 18360
E--> 1153 gagactccca ttctctgacc cttctttccc attgtaagag tagtagttac aagggtgtaa
1154 18420
E--> 1156 ggatagatga tcttcaacac ttttgagaaa tagatccatt tacggatctg gtaaaaacta
1157 18480
E--> 1159 tggaccgaac catcttttaa gaaaaaatt cagagaggaa tctaaatttt gtgtgctttg
1160 18540
E--> 1162 aggggaaact ctcagaatct cccctcaaaa ctatcattct tctcttatac tatagatgtg
1163 18600
E--> 1165 tcagactctc actgggactg tatagttgct gctccctgta ttgataata tctatcaaga
1166 18660
E--> 1168 actgcagggt aattcaaagt cagctatta gcagcaagtg tgagcagtgt tggtttcccc
1169 18720
E--> 1171 agtctctaca tccctcatcc tttctttctt ctttatgggt gtctattaaa gaaataaaaa
1172 18780
E--> 1174 aaaatattgg ctgaccgttt ttctgaagat aatgtatatc aaggaccacc ttttgaaaaa
1175 18840
E--> 1177 cactcattat tcgagaacaa agacacaaca tacgagaatc tctgggatac attcaaagca
1178 18900
E--> 1180 gtgtgtagag ggaaatttat agcactaaat gccacaaga gaaagcagga aagatctaaa
1181 18960
E--> 1183 attgatccc taacatcaca attaaaagaa ctagaaaagc aagagcaaac acattcaaaa
1184 19020
E--> 1186 gctagcagaa gacaagaaat aactaagatc agagcagaac tgaaggaaat agagacacaa
1187 19080
E--> 1189 aaaacccttc aaaaaattaa tgaatccagg agctggtttt ttgaaaagat taacaaaatt
1190 19140
E--> 1192 gatagactgc tagcaagact aataaagaag aaaagagaga agaatcaaat agacacaata
1193 19200
E--> 1195 aaaaatgata aaggggatat caccaccgat cccacagaaa tacaaactac catcagagaa
1196 19260
E--> 1198 tactataaac acctctacgc aaataaacta gaaaatctag aagaaatgga taaattcctc
1199 19320
E--> 1201 gatacatata cctcccaag accaaaccag gaagaagttg aatctctgaa tagaccaata
1202 19380
E--> 1204 acaggctctg aaattgaggc aataatcaat agcttaccaa caaaaaaaag tccaggacca
1205 19440
E--> 1207 gatggattca cagctgaatt ctaccagacg tacaaagagg agctgggtacc attccttctg
1208 19500
E--> 1210 aaactattcc aatcaataga aaaagaggga atcctcccta actcatttta tgaggccagc
1211 19560

```

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

E--> 1213 atcatcctga taccaaagcc tggcagagac acaacccaaa aagagaattt tagaccaata  
 1214 19620  
 E--> 1216 tccttgatga acattgatgc aaaaatcctc aataaaatac tggcaaaccg aatccagcag  
 1217 19680  
 E--> 1219 cacatcaaaa agcttatcca ccatgatcaa gtgggtttca tccttgggat gcaaggctgg  
 1220 19740  
 E--> 1222 ttcaacatac gcaaatcaat aaatgtaatc cagcatataa acagaaacaa agacaaaaac  
 1223 19800  
 E--> 1225 cacatgatta tctcaataga tgcagaaaag gcatttgaca aaatttaaca actcttcatg  
 1226 19860  
 E--> 1228 ctaaaaactc tcaatcaatt aggtattgat gggacgtatc tcaaaataat aagcactatc  
 1229 19920  
 E--> 1231 tatgacaaac tcacagccaa tatcatactg aatgggcaaa aactggaagc attccctttg  
 1232 19980  
 E--> 1234 aaaacgggca caagacaggg atgccctctc tcaccactcc tattcaacat agtggttgaa  
 1235 20040  
 E--> 1237 gctctggcca gggcaattag gcaggagaag gaaataaagg gtattcaatt aggagaagag  
 1238 20100  
 E--> 1240 gaagtcaaat tgtccctggt tgcagatgac atgattgtat atctagaaaa ccccatcgtc  
 1241 20160  
 E--> 1243 tcagcccaaa atctccttaa gctgataagc aacttcagca aagtctcagg atacaaaatc  
 1244 20220  
 E--> 1246 aatgtacaaa aatcacaagc actcttatac atcaataaca gacaaacaga gagccaaatc  
 1247 20280  
 E--> 1249 atgagtgaac tcccattcac  
 1250 20300  
 1253 <210> SEQ ID NO: 4  
 1254 <211> LENGTH: 480  
 1255 <212> TYPE: DNA  
 1256 <213> ORGANISM: Artificial Sequence  
 1258 <220> FEATURE:  
 1259 <223> OTHER INFORMATION: A genomic sequence occurring upstream of RGS4  
 1261 <400> SEQUENCE: 4  
 E--> 1262 ggattaatca tgacaaaagt aatctaaatc tcgttaagac tacttaatga tcaatctttc  
 1263 60  
 E--> 1265 cctctgtttt ccctgactat aggggaagtga attgcccacaa tccttctcta tcacccccct  
 1266 120  
 E--> 1268 gcagccatgc caatgcctta cctctgttat attcagccat aggggaagct tattctcata  
 1269 180  
 E--> 1271 gaatcagggg ttggcatgta gtcactagct attcttggtg agactagtga agatgagtga  
 1272 240  
 E--> 1274 aggaaaatat tgcataggtg aaatctcata ggcacaaata ggtgtttgtg agagtaacaa  
 1275 300  
 E--> 1277 taaaagaaaag tcattcccat actctagtag atgactcatt ttctcctcat tttttttttt  
 1278 360  
 E--> 1280 tcaaggcggt ctctacaacg gttaacctag taccaaaaat ccttctcttt tttcttggac  
 1281 420  
 E--> 1283 aaatcctggt caagtttagc tggcatttac tacgtccaag acattgtcca gatgctgtgg  
 1284 480

*Same**Same*

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

```

1287 <210> SEQ ID NO: 5
1288 <211> LENGTH: 420
1289 <212> TYPE: DNA
1290 <213> ORGANISM: Artificial Sequence
1292 <220> FEATURE:
1293 <223> OTHER INFORMATION: A genomic sequence occurring upstream of RGS4
1295 <400> SEQUENCE: 5
E--> 1296 agagaaagaa aggcaggcag caaggagaaa aaacattttt taaaaaaaga aaattaaaat
1297 60
E--> 1299 ccatgtaatg tctgatatct gttctgctgt atgtgtagat ctttccatat accaactcat
1300 120
E--> 1302 tagccttatt ttacaggtga ggaaaatgag accgagagtc cttcttactt gaccaagttc
1303 180
E--> 1305 acacagcaag atcacacatg gtagaaccaa tgttagaacc taggtgtata cttgctcatt
1306 240
E--> 1308 caatatgtac aataattgca aaagtttcca taggtcttat tatatatcag gcactataaa
1309 300
E--> 1311 tgctatgcat gtgtcaacta atttaaacct aagcaatatt ataaggaagg tactattata
1312 360
E--> 1314 gaaatctcag ccttacaggt aagggaacag gaataaagag atgtgaggta atggcccaag
1315 420
1318 <210> SEQ ID NO: 6
1319 <211> LENGTH: 360
1320 <212> TYPE: DNA
1321 <213> ORGANISM: Artificial Sequence
1323 <220> FEATURE:
1324 <223> OTHER INFORMATION: A genomic sequence occurring upstream of RGS4
1326 <400> SEQUENCE: 6
E--> 1327 ataatctcct ttcaagtttt tatectgtca cttgctagtt gtgtgatttg ggacaaatca
1328 60
E--> 1330 tttaactcct tgtaaaggga gagaaggaag gctgtaaaaa aattaagtaa taaaaagata
1331 120
E--> 1333 aactccttgt ggtatatattt gttattgttc aaaaatattt attgcccctc ttaggatgtc
1334 180
E--> 1336 ttaggtcatt cttgcattgc tataaagaaa tacccaagtc tgggtaattt ataaagaata
1337 240
E--> 1339 gaggttaa at tggtcacag ttctgcaggc tgcacaggaa gcatcccact ggcgtctact
1340 300
E--> 1342 cacttctggt gaggactcag aaagcttttg cttatgacag caggctaagt gagagcaggt
1343 360
1346 <210> SEQ ID NO: 7
1347 <211> LENGTH: 420
1348 <212> TYPE: DNA
1349 <213> ORGANISM: Artificial Sequence
1351 <220> FEATURE:
1352 <223> OTHER INFORMATION: A genomic sequence occurring downstream of RGS4
1354 <400> SEQUENCE: 7
E--> 1355 catgggtattt ttactacca ttgccttcta ggaaagggtg taacaaatag gaaatattaa
1356 60

```

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/939,209

TIME: 11:04:05

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

E--> 1358 tatttttaat gcctttgagg gtgttaaaaa gcacaactct aaggactgtt tgtaaattcc  
1359 120

E--> 1361 aggtcaaatg ttgtttctcc ttctctatct cctaccttgg tgatggcctg atcttatatg  
1362 180

E--> 1364 gagtcactcc aactagaaac cacagaatca tccctagtcc ctactcttga ctcactccat  
1365 240

E--> 1367 acactcaaaa gtcacctgac tctgcagaat ttctctagaa aaactctatg aaaacctatt  
1368 300

E--> 1370 cctgcctctc cacctgcata gatgtagctt catccaggct cttatggtgc atggcctcgg  
1371 360

E--> 1373 ttactgcctt atccttttcta ctggcctctc aatctcccat ctgataccca ttaatgtact  
1374 420

1377 <210> SEQ ID NO: 8

1378 <211> LENGTH: 360

1379 <212> TYPE: DNA

1380 <213> ORGANISM: Artificial Sequence

1382 <220> FEATURE:

1383 <223> OTHER INFORMATION: A genomic sequence downstream of RGS4

1385 <400> SEQUENCE: 8

E--> 1386 ccaaatactt tttaggcaca ctgggaagtt acattgtttc ttgcaagtga caggttgctc  
1387 60

E--> 1389 ttttaattagt tctttctctc aaaaagagac tgctgactcc aaactgggaa gaaaccact  
1390 120

E--> 1392 caccagcaaa atgctgctga attcactctg atagttttct aatctctcat cagtagatga  
1393 180

E--> 1395 caataatgaa gccagtattg ttaccacaag actcagatat gtctatcacc caagatgatt  
1396 240

E--> 1398 tctctttaag acgcaataaa aggggaacttt tctccccatt tattagcaac taagatgaaa  
1399 300

E--> 1401 tgagagccag agaaataaag tgaggaagga aagagaattt actaccttta caagctgaaa  
1402 360

## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/939,209

DATE: 09/18/2001

TIME: 11:04:06

Input Set : A:\PITT00-539.asc

Output Set: N:\CRF3\09182001\I939209.raw

L:7 M:283 W: Missing Blank Line separator, <120> field identifier  
L:12 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:28 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:60 SEQ:1  
M:254 Repeated in SeqNo=1  
L:235 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:60 SEQ:3  
M:254 Repeated in SeqNo=3  
L:1262 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:60 SEQ:4  
M:254 Repeated in SeqNo=4  
L:1296 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:60 SEQ:5  
M:254 Repeated in SeqNo=5  
L:1327 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:60 SEQ:6  
M:254 Repeated in SeqNo=6  
L:1355 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:60 SEQ:7  
M:254 Repeated in SeqNo=7  
L:1386 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:60 SEQ:8  
M:254 Repeated in SeqNo=8